(54) Title: A TECHNIQUE FOR REDUCING PROCESSING POWER IN 3G SYSTEMS

500

510
RECEIVE DATA BLOCKS
INCLUDING BITS OF DATA

520
FORM RECTANGULAR ARRAYS
USING RECEIVED BITS OF DATA

530
EQUALIZE THE COLUMNS
BY USING FILLER BITS

540
PERFORM INTER-COLUMN
PERMUTATION

550
READ-OUT PERMUTED ARRAYS
COLUMN BY COLUMN

560
MULTIPLEX SEGMENTED DATA
FOR DATA TRANSMISSION
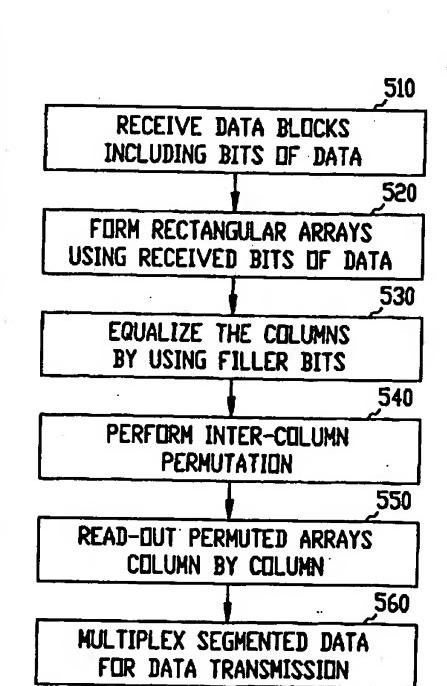
(57) Abstract: The present invention provides an improved
transmitter for processing data blocks including bits of data
coming from multiple transport channels in a transmitter
of a radio communication system supporting variable
data-rate transmissions. This is accomplished by using
a computationally efficient technique for processing the
received data blocks for variable data rate transmissions.
The improved transmitter receives the data blocks including
the bits of data from multiple transport channels. The
transmitter then forms rectangular arrays including a
predetermined number of columns and rows using the
received bits of data such that the columns are based
on a segmented radio frame size suitable for variable
data-rate transmission. The transmitter then equilizes and
interleaves the formed columns and reads out bits of data
in the equilized and interleaved column-by-column. The
transmitter then multiplex the read-out bits of data for
variable data-rate transmissions.

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